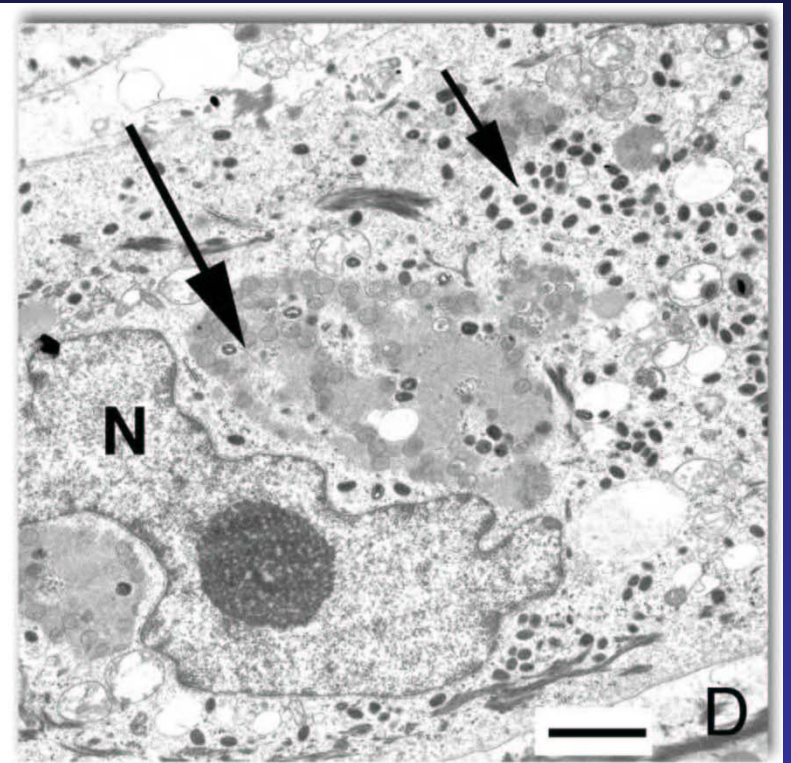
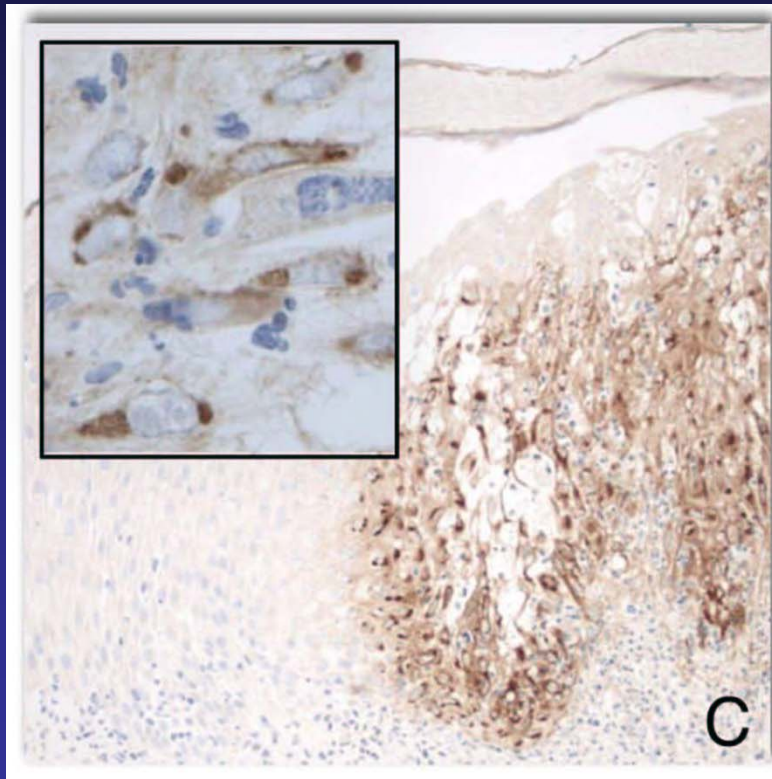


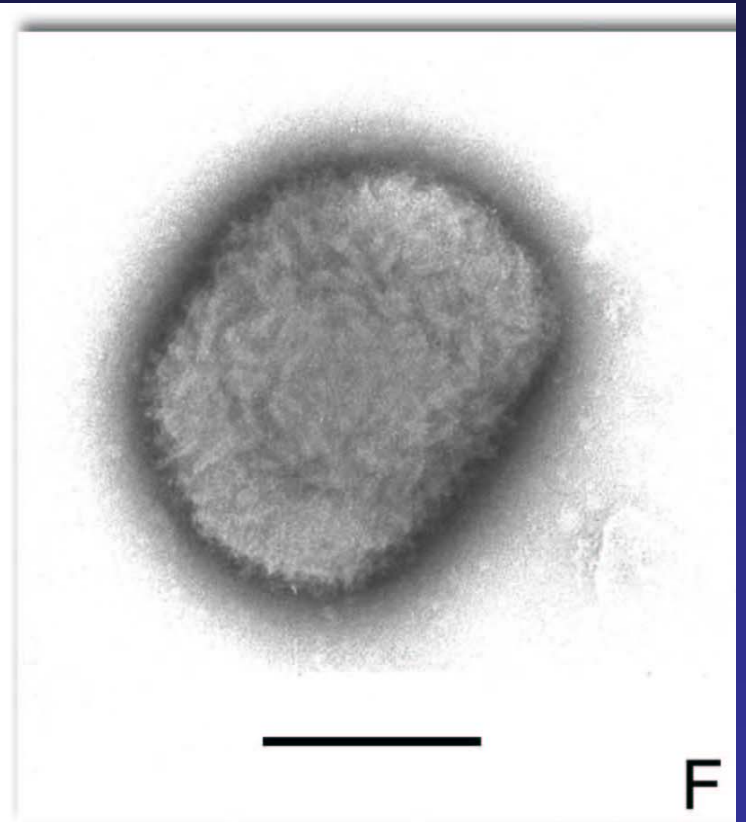
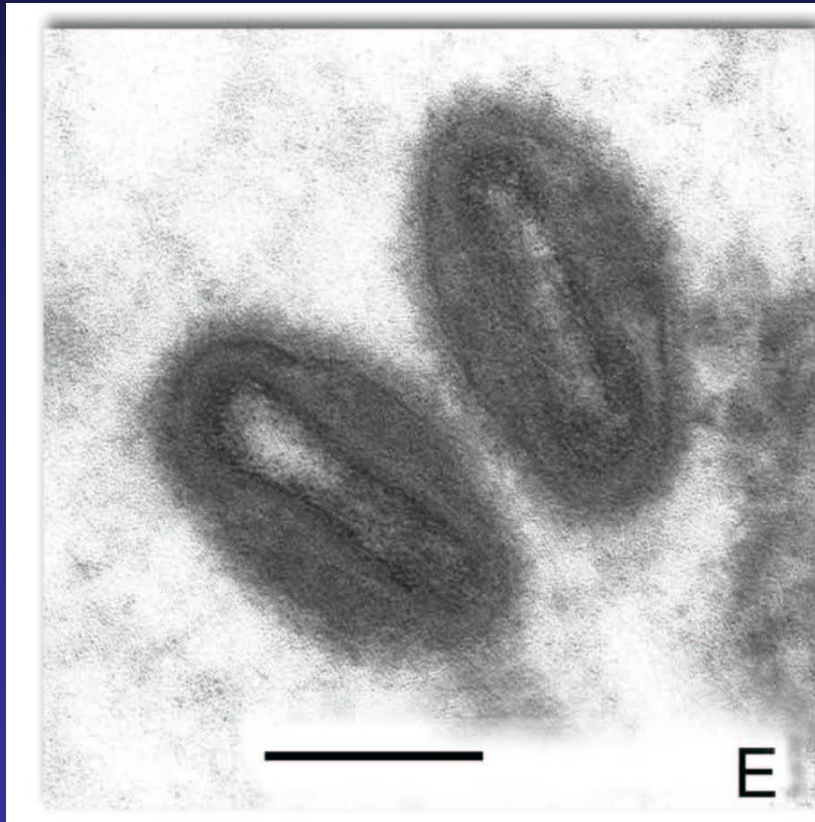
Case “2”: PCR+, Culture +, seroconverts IgG & IgM , IHC & EM+



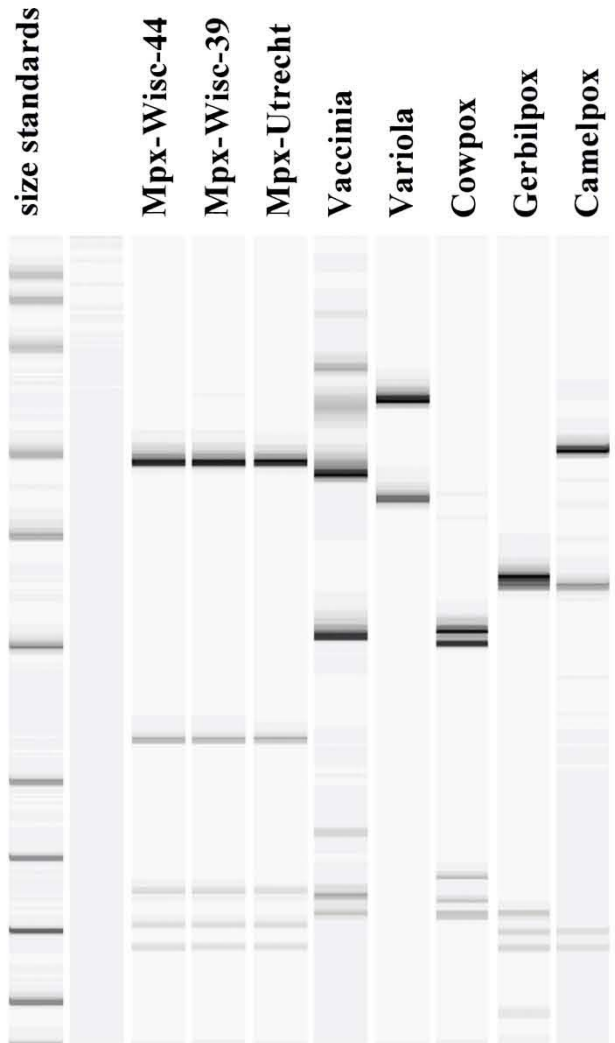
Immunohistochemical and EM Analysis of Monkeypox in Epidermis and Keratinocyte



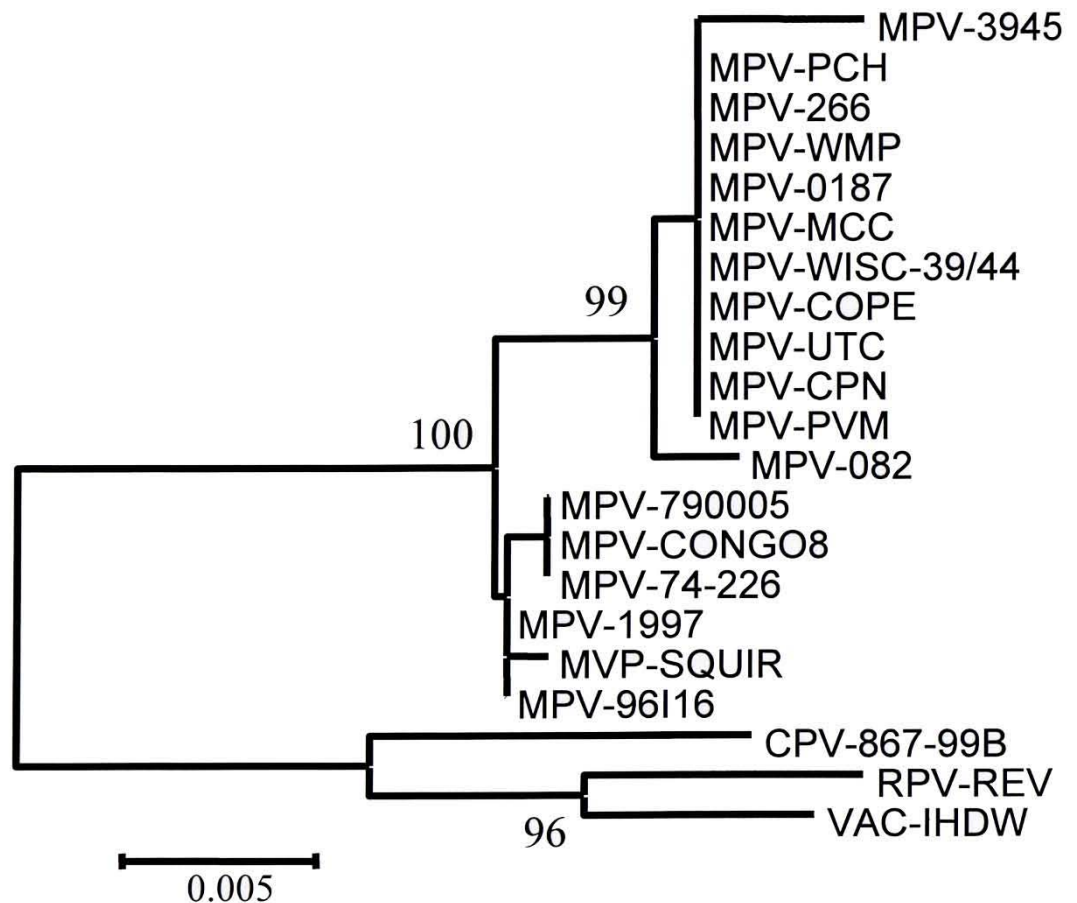
EM of Monkeypox Virions



RFLP and Phylogenetic Analysis of Orthopoxvirus Isolates



A



B

Monkeypox

First human outbreak described in 1970, Zaire



Comparison of Monkeypox Cases Seen with Smallpox

- Exposure: index case a young child with clear link to prairie dog bite.
- Illness: generally mild with only one VSI patient; one persistent keratitis
- Rash: most patients with relatively few lesions; one with 100s of lesions; pustular lesions with focal hemorrhage
- Transmission: all cases linked to prairie dog exposure

Gambian Giant (Pouched) Rat

Gambian giant-pouched rat (*C. gambianus*)



Brush-tailed Porcupine



Sun Squirrel

(155)

Tree Squirrel



Rope Squirrel

Cuviers fire-footed tree squirrel
F. pyrrhopus



courtesy triadrescue.org

Striped Mouse



Copyright Smithsonian Institution, 1997

Miller's Striped Mouse
H. planifrons

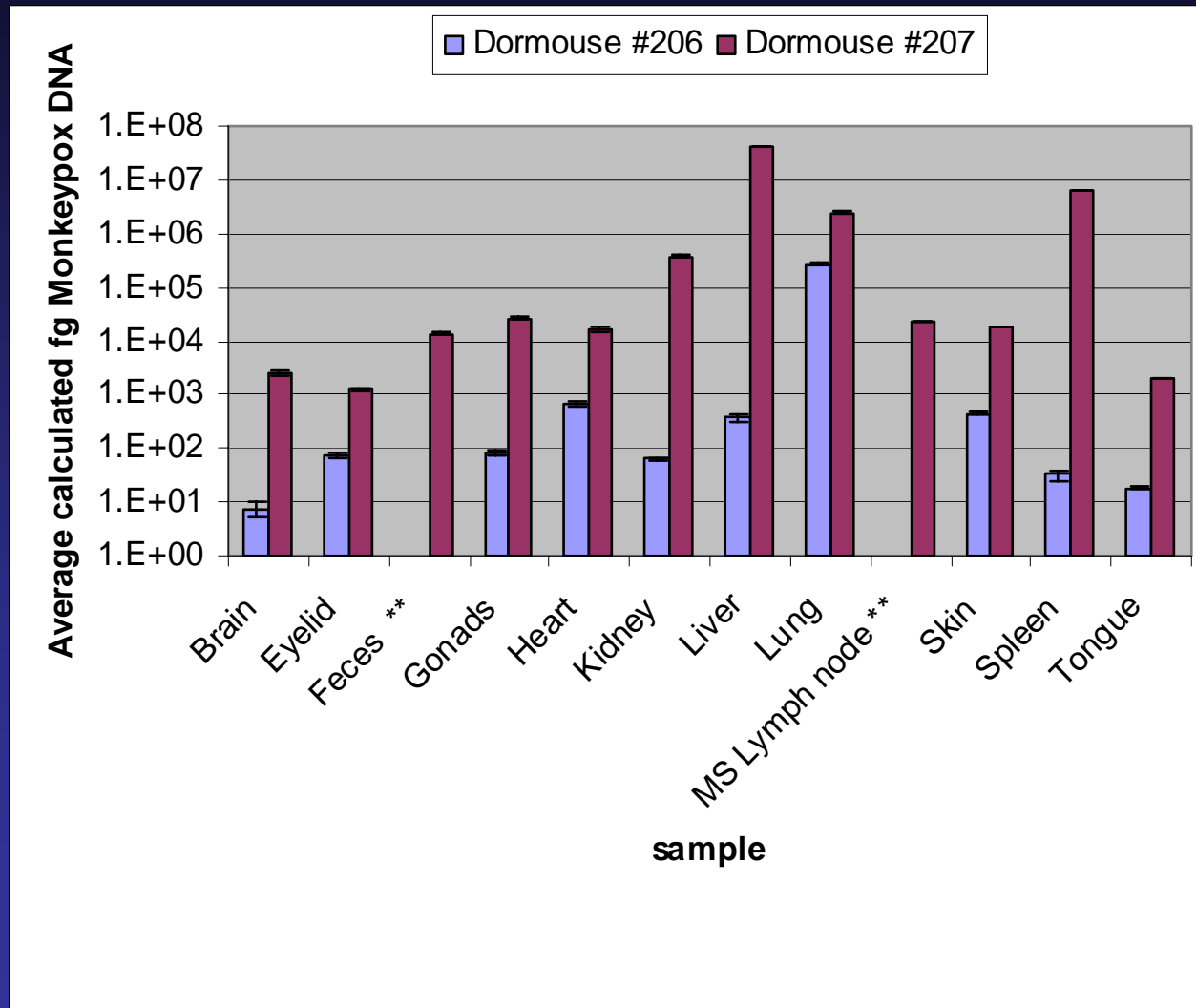
courtesy www.mnh.si.edu
photographer: Mike Carleton

Dormouse



(c) 2003 www.zoocities.de/bilch/

Orthopoxvirus DNA in tissues of two dormice: most tissues with evidence of infection



Animal Concerns

- Pathogenesis in animals poorly understood
 - Unknown incubation period, length of transmissibility
- Laboratory evidence suggests multiple animals and species of imported rodents infected
 - All rodents from shipment considered potentially infected
- Types of susceptible species unknown
 - Cannot exclude the possibility of infection in other mammals that had contact with infected PDs or imported rodents

Animal Tracing: Limitations

- Incomplete invoice and sales records
 - Cash sales often had no record
 - Recall bias
 - Intermediate dealers difficult to trace
- Trade at Swap Meets
 - Widespread distribution
- Exposure without ownership
 - Petting animals
 - Pet store patrons

*Not all animals or exposures
are traceable*

Questions for Consideration

- Was this a realistic surrogate for smallpox?
- Should these cases have triggered use of the Febrile Rash Algorithm?
- Was the delay in alerting CDC justified?
- Why was there difficulty in getting appropriate clinical specimens from some States?



IT'S
PROBABLY
MONKEYPOX
SARS OR
THE WEST
NILE VIRUS

WHATEVER HAPPENED
TO THE COMMON COLD?

STAHLER.
2003